

Claims:

1. A process for the preparation of terpolymers of ethylene and at least 2 further olefinically unsaturated compounds by polymerization in a tubular reactor fitted with at least one side branch, wherein the fresh monomer components, which are introduced into the tubular reactor via the reactor inlet (the primary stream) or via the side branch or side branches (secondary stream or secondary streams), in each of the streams contain ethylene and at most one further olefinically unsaturated compound.
2. The process as claimed in claim 1, wherein the comonomer content in the primary stream is from 3 to 200 parts by weight, preferably from 7 to 100 parts by weight, per 100 parts by weight of ethylene, and the comonomer content in the secondary stream is from 10 to 500 parts by weight, preferably from 20 to 300 parts by weight, per 100 parts by weight of ethylene.
3. The process as claimed in claim 1 or 2, wherein the initiator contents in the primary stream are from 50 to 10,000 ppm by weight, preferably from 50 to 1000 ppm by weight, and the initiator contents in the secondary stream are from 100 to 10,000 ppm by weight, preferably from 200 to 2000 ppm by weight, in each case based on the monomer mixture.
4. The process as claimed in one or more of claims 1 to 3, wherein the regulator concentration in the primary and secondary streams is identical or different and is from 0.05 to 20% by weight, based on the monomer mixture.
5. The process as claimed in claim 4, wherein the regulator concentration in the primary stream is from 0.1 to 10% by weight and the regulator concentration in the secondary stream is from 0.1 to 5% by weight, based on the monomer mixture.

6. The process as claimed in one or more of claims 1 to 5, wherein the volume ratio of primary stream to secondary stream is from 1:0.2 to 5.
7. The process as claimed in one or more of claims 1 to 6, wherein one, two or three, in particular three, secondary streams are used.
8. The process as claimed in one or more of claims 1 to 7, wherein the comonomers used are vinyl esters of the formula 1



in which R^1 is C_1 - to C_{30} -alkyl, preferably C_1 - to C_{16} -alkyl, especially C_1 - to C_{12} -alkyl, for example vinyl acetate, vinyl propionate, 2-ethylhexanoic acid vinyl ester, vinyl laurate, vinyl neononanoate, vinyl neodecanoate or vinyl neoundecanoate.

9. The process as claimed in one or more of claims 1 to 8, wherein the comonomers used are acrylates of the formula 2



in which R^2 is hydrogen or methyl and R^3 is C_1 - to C_{30} -alkyl, preferably C_1 - to C_{16} -alkyl, especially C_1 - to C_{12} -alkyl, for example methyl acrylate or 2-ethylhexyl acrylate.

10. The process as claimed in one or more of claims 1 to 9, wherein the comonomers used are alkyl vinyl ethers of the formula 3



in which R^4 is C_1 - to C_{30} -alkyl, preferably C_1 - to C_{16} -alkyl, especially C_1 - to

C₁₂-alkyl.

- 5 11. The process as claimed in one or more of claims 1 to 10, wherein the comonomers used are monounsaturated hydrocarbons having 3 to 30, in particular 4 to 16, especially 5 to 12, carbon atoms, preferably isobutylene, diisobutylene, 4-methylpentene, hexene, octene or norbornene.
- 10 12. The use of the copolymers prepared as claimed in one or more of claims 1 to 10, individually or in mixtures with one another, as cold-flow improvers for mineral oils and mineral oil distillates.